Apparatus and Methods for Entropy-Encoding or Entropy-Decoding using an Initialization of Context Variables

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Abstract

An entropy encoding/decoding scheme uses an arithmetic en-
coder/decoder together with a context modeler for performing
10 a context-based adaptive binary arithmetic coding, which is
especially suited for video compression applications. The
context modeler includes an initializer for initializing the
context modeler by determining and providing initialization
probability information to the arithmetic encoder, the ini-
15 tialization probability information to be used by the arith-
metic encoder for processing a start symbol of a symbol se-
quence. The initializer is operative to determine the ini-
tialization probability information based on an estimation of
the symbol statistics relating to the start symbol such that
20 an initialization probability distribution is different from
an equi-probable distribution for all symbols of the symbol
set. By means of the initialization, the context-based adap-
tive binary arithmetic coding/decoding scheme is optimally
adjusted before processing a start symbol of the symbol se-
25 quence so that no bit rate compression losses because of a
delayed context-based adaptation are introduced.